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| EXAMINER |
|---|
| OCAMPO, MARIANNE S |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1723 | 7 |

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Please find below and/or attached an Office communication concerning this application or proceeding.

TC-7

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/836,546 | SERVO ET AL. | |
| | Examiner | Art Unit | |
| | Marianne S. Ocampo | 1723 | |

-- *The MAILING DATE of this communication app ars on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 June 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *5,10-13 and 17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-9 and 14-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *5,10-13 and 17* are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 April 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of group I, species I, subspecies 3 which refers to an invention (subcombination) in the form of a fastening strip, involving claims 1 – 4 and 6 in Paper No. 5 is acknowledged. The traversal is on the grounds that the combination (a filter unit and a fastening strip) being claimed in claims 7 – 9 and in newly added claims 14 – 16 and 18, now include particulars of the subcombination. The arguments filed with the response to restriction requirement (Paper no. 5), have been considered and the examiner found the arguments referring to reconsideration of rejoining claims 7 – 9 and 14 – 16 and 18 with the elected species and subspecies to be persuasive, however, with regards to claims 5 and 17, which are claims referring to another subspecies were found unpersuasive. With regards to claims 5 and 17, the fastening strip comprising two flexible projections separated by a gap which allows movement of the projections towards one another is a different embodiment as in Fig. 7 which works/functions different than the embodiment selected in Fig. 8, in that the two projections act like springs which provides the fastening/biasing to hold the strip in the groove 13, while the support/fastening strip in the embodiment in Fig. 8 shows only one flexible projection which has a tapered configuration allowing its wider sides to compress against the walls of the groove to hold itself in the groove 13. Concerning claims 6 and 18, these claims are also rejoined with the

elected claims since they read on the embodiment in Fig. 8. Therefore, the pending claims being considered include claims 1 – 4, 6 – 9, 14 - 16 and 18.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 5, 10 – 13 and 17 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to non-elected inventions/species and subspecie, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

***Drawings***

3. The drawings are objected to because of the following informality:

a). In fig. 1, the "PRIOR ART" label should be placed right next to the heading "Fig. 1".

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2 - 4 and 14 – 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a). Claims 2 and 14 recite the limitation "at least **the surface** on **the side of the sector element** of the support portion is curved". There is insufficient antecedent basis for these limitations in the claims. Since the sector element is not part of the claimed invention and it is uncertain which surface of the support portion would be on a side of the sector element, it is unclear which surface or side of the support portion would be curved.

b). Claims 3 and 15 recite the limitation "the transverse edges of the fastening strip" in line 2. There is insufficient antecedent basis for this limitation in the claims.

c). Claim 4 recites the limitation "the sector element" in line 2. There is insufficient antecedent basis for this limitation in the claim. Is the sector element being the filter element, or a different structure altogether? For examination purposes, the examiner considered that the word "sector" should have been written as "filter".

## *Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Denhard (US 2,061,351).

8. With regards to claim 1, Denhard discloses a fastening strip for fastening a filter cloth (2, 3) to a filter element, the fastening strip (12, 11, 6) being an elongated piece having a substantially T-formed (the term "substantially T-formed" has been defined by the examiner to include L-shaped or T-shaped) cross-section and comprising a fastening portion (radially extending portions of 12 or 11) made from flexible material and so dimensioned that it is deformed (compressed) when inserted into a fastening groove (space between the elements 6 and/or filter medias, 2 and 3) and generates a fastening force and a support portion (upstanding portions perpendicular to the radially extending portions of 11 or 12) that is transverse to the fastening portion and remains outside of the fastening groove and is dimensioned so as to extend to a predetermined distance from the edge of the fastening groove, as in fig. 3 and page 1 of the specification. Since the claimed invention here is the fastening strip, and not the solid-liquid separator, all the limitations of the solid-liquid separator are unnecessary.

9. Concerning claim 4, Denhard also discloses the support portion comprising a flat portion on the surface opposite the sector element/filter element (2, 3, 4), as in fig. 3.

10. Regarding claim 6, Denhard further discloses the fastening portion being made of a flexible compressible material such as a gasket (rubber) material, as in page 1 of the specification. It is well known in the art that gaskets such as those by Denhard are usually formed of a rubber material which is known to be flexible and compressible (See Webster's Collegiate Dictionary, 10th ed., page 481 for definition of "gasket").

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1, 4, 6 – 9, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simonson (US 4,139,472) in view of Denhard (351).

13. With respect to claim 1, Simonson discloses a fastening strip for fastening a filter cloth (28) to the filter element (10) of a solid-liquid separator (rotary disc filter shown in Fig. 1), the fastening strip being an elongated piece (124) having a circular cross-section, as in fig. 7 and

in cols. 3 – 5. Simonson fails to disclose the fastening strip having a substantially T-formed cross-section and comprising a fastening portion made of flexible material and dimensioned so that when it is deformed/compressed upon insertion into a fastening groove and generates a fastening force and a support portion being transverse to the fastening portion and remaining outside of the groove and dimensioned to extend a predetermined distance from an edge of the fastening groove. Denhard teaches a similar fastening strip for fastening a filter cloth (2, 3) to a filter element (filter leaf) wherein the fastening strip (12) being an elongated piece of flexible (gasket) material having a substantially T-formed cross-section and dimensioned so that when it is deformed/compressed upon insertion into a fastening groove (formed between clips 6 and 7) and generates a fastening force and a support portion being transverse to the fastening portion and remaining outside of the groove and dimensioned to extend a predetermined distance from an edge of the fastening groove, as in fig. 3. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the fastening strip of Simonson by substituting it with the fastening strip (12) taught by Denhard, in order to provide an alternative and improved design for a fastening strip to hold a filter cloth to a filter element, not requiring the use of adhesives, thereby eliminating costs of adhesives and messy and more complicated steps in forming adhesive bonds in order to fasten/hold a filter cloth to a filter element.

13. With regards to claim 4, Denhard further teaches the T-shaped/T-formed fastening strip (12) having a support portion (flange making the T-extension) comprising flat portion on the surface opposite the filter element, as in fig. 3.

14. Concerning claim 6, Denhard also teaches the strip (12) being formed of a gasket material, which is generally known to be formed of a rubber material which is a flexible compressible material. (See Webster's Collegiate Dictionary, 10th ed., page 481 for definition of "gasket"). It is considered obvious to one of ordinary skill in the art to modify the material of construction of the fastening strip of Simonson to the material (flexible compressible material such as a gasket (rubber) material) taught by Denhard, in order to provide an improved and alternative material of construction which not only provides a sealing/fastening function for holding the filter cloth in place, but also is compressible which allows for any movement due to pressure and loading changes during use of the filter element.

15. Regarding claim 7, Simonson discloses a filter unit (20, 22 or 24) for a disc filter wherein the disc filter comprises a body portion that is rotatable about its horizontal axis and on whose periphery are arranged two or more filter units (20, 22, 24) that form a disciform structure, and the filter unit (20 or 22 or 24) comprising a sector element (20 or 22 or 24), a filter cloth (28) and a fastening strip (124), and the sector element (20, 22 or 24) comprising a neck portion (78, 44) for fastening the sector element to the body portion of the disc filter, a flat substantially triangular hollow blade portion (46) comprising an outer edge at the edge opposite the neck portion and lateral faces transverse to the direction of rotation and flank surfaces (60) in the direction of rotation, and the flank surfaces (60) of the sector element (22, 20, 24) being provided with holes (between projections 62) and act as filter surfaces and the filter cloth is

arranged against the filter surfaces and the sector element comprising at least one fastening groove (122, 46) and a fastening strip (124) is arranged for fastening the filter cloth on the sector element (22, 46), as in figs. 1, 6 and 7 and cols. 3 – 6. Simonson fails to disclose the fastening strip having a substantially T-formed cross-section and comprising a fastening portion made of flexible material and dimensioned so that when it is deformed/compressed upon insertion into a fastening groove and generates a fastening force and a support portion being transverse to the fastening portion and remaining outside of the groove and dimensioned to extend a predetermined distance from an edge of the fastening groove. Denhard teaches a similar fastening strip for fastening a filter cloth (2, 3) to a filter element (filter leaf) wherein the fastening strip (12) being an elongated piece of flexible (gasket) material having a substantially T-formed cross-section and dimensioned so that when it is deformed/compressed upon insertion into a fastening groove (formed between clips 6 and 7) and generates a fastening force and a support portion being transverse to the fastening portion and remaining outside of the groove and dimensioned to extend a predetermined distance from an edge of the fastening groove, as in fig. 3. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the fastening strip of Simonson by substituting it with the fastening strip (12) taught by Denhard, in order to provide an alternative and improved design for a fastening strip to hold a filter cloth to a filter element, not requiring the use of adhesives, thereby eliminating costs of adhesives and messy and more complicated steps in forming adhesive bonds in order to fasten/hold a filter cloth to a filter element.

16. Regarding claim 8, Simonson also discloses the fastening groove (122) being arranged at an outer edge of the blade portion (46) and a tubular filter bag (28) made of a filter cloth material and open at both its ends and comprising a wider end and a narrower end, being arranged around the sector element (22) and the narrower end of the filter bag (28) being fastened by means of fastening elements (116) around the neck portion (78) of the sector element and the edges (120, 118) of the wider end of the bag (28) being fastened to the fastening groove (122) of the sector element by the fastening strip (124), as in figs. 1 and 7 and col. 5.

17. With respect to claim 9, Simonson further discloses the fastening groove (122) being arranged on at least one lateral face of the blade portion (46) of the sector element, as in fig. 7.

18. Concerning claim 16, Simonson, as modified by Denhard, teaches the support portion (T flange/extension) of the fastening strip (12) comprising a flat portion to be placed on the surface opposite the sector element, as in fig. 3.

19. Regarding claim 18, Denhard also teaches the strip (12) being formed of a gasket material, which is generally known to be formed of a rubber material which is a flexible compressible material. (See Webster's Collegiate Dictionary, 10th ed., page 481 for definition of "gasket"). It is considered obvious to one of ordinary skill in the art to modify the material of construction of the fastening strip of Simonson to the material (flexible compressible material such as a gasket (rubber) material) taught by Denhard, in order to provide an improved and

alternative material of construction which not only provides a sealing/fastening function for holding the filter cloth in place, but also is compressible which allows for any movement due to pressure and loading changes during use of the filter element.

20. Claims 2 – 3 and 14 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simonson and Denhard, as applied to claims 1 and 7 above, and further in view of Erland (US 5,318,422).

21. With regards to claims 2 and 14, Simonson as modified by Denhard, fail to teach at least a surface of the support portion of the fastening strip being curved, such as the surface being on the side of the sector element. Erland teaches a fastening strip (36) similar to that of Simonson as modified by Denhard, having a support portion with a surface that is curved (the outer edges of the horizontal flange forming the T cross-section thereof), as in fig. 3. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the fastening strip of Simonson as modified by Denhard, by adding the embodiment taught by Erland, in order to provide an alternative design/configuration, as well as an improved fastening strip which allows a firmer grip on the filter cloth it is fastening/holding onto the sector element. With the design taught by Erland, the curved edges would provide a more stable and firmer grip on the filter cloth being fastened onto the sector element.

22. Concerning claims 3 and 15, Erland further teaches the support portion narrowing towards transverse edges (those on the vertical portion of the T-formed strip) of the fastening strip. The same motivation used in the preceding paragraph is used here.

***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 4,159,951 (Davis), 3,485,376 (Peterson et al.), 2,794,553 (Colarusso), 1,803,214 (Siegel) and 3,339,742 (Kracklauer).

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (703) 305-1039. The examiner can normally be reached on Mondays to Fridays from 8:00 A.M. to 4:30 P.M..

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

26. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

M.S.O.
September 4, 2002

MATTHEW O. SAVAGE
PRIMARY EXAMINER